Amendments to the Specification

Applicant presents replacement paragraphs below indicating the changes with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please replace the paragraph beginning on page 2, line 20, which starts with "To perform the stroke analysis, in accordance with one aspect of the present invention" with:

To perform the stroke analysis, in accordance with one aspect of the present invention, a model for curvature features for single strokes is trained using a trainable classifier, such as a support vector machine (SVM). The curvature features are represented by a curvature vector. The curvature vector may include information obtained, for example, by a tangent histogram or ~~discreet~~ discrete curvature calculation of a stroke. Using the trainable classifier, a single stroke may be classified in accordance with the stroke's curvature vector as either "text" or "unknown."

Please replace the paragraph beginning on page 5, line 15, which starts with "Fig. 5..." with:

FIG. 5 is a representation of an ink trace showing how ~~discreet~~ discrete curvature may be calculated in accordance with one aspect of the present invention;

Please replace the paragraph beginning on page 22, line 3, which starts with "In accordance with one aspect..." with:

In accordance with one aspect of the present invention, a trainable classifier is trained to define hyperplanes for curvature features of known stroke values. To this end, FIG. 4 shows a general overview of a process for training the trainable classifier to

recognize the curvature features of strokes in accordance with one aspect of the present invention. For ease of reference, the trainable classifier is referred to hereinafter as a support vector machine, although other trainable classifiers may be used. In this example, the objects that are to be in a class are strokes that fall within a margin of error of meeting the curvature features of a trained stroke. The different curvature features are defined by a "curvature vector," which may include such information as a tangent histogram of a stroke, or information regarding the ~~discreet~~ discrete curvature of a stroke, as further described below.

Please replace the paragraph beginning on page 26, line 7, which starts with "The process for training support vector machines..." with:

The process for training support vector machines in known, but a brief description is given here to aid the reader. First, the support vector machine is initialized and trained on known inputs (in this example, strokes) having known output values, or classifications. For example, a given text stroke value, if English, may be a letter, a series of letters, or a portion of a letter. A number of features are defined for a given curvature vector which may or may not be present within a particular class. The support vector machine may be initialized by setting the weights and biases of the processing features (e.g., values for the series of ~~discreet~~ discrete curvatures) to random values, typically generated from a Gaussian distribution. The support vector machine is then trained using a succession of inputs (in this example, the curvature vectors of strokes) having known outputs or classes. As the training inputs are fed to the support vector machine, the values of the weights and biases for particular features are adjusted (e.g., in accordance with a known back-propagation technique) such that the output of the support vector machine of each individual training pattern approaches or matches the known output (step 410). Basically, a gradient descent in weight space is used to minimize the output error. In this manner, learning using successive training inputs

converges towards a locally optimal solution for the weights and biases. That is, the weights and biases are adjusted to minimize an error.

Please replace the paragraph beginning on page 30, line 3, which starts with "At step 708..." with:

At step 708, the discreet curvature for the stroke's segments is calculated (e.g., by the curvature calculator 304 in the manner described above). Using the series of discrete curvatures, the curvature vector for the stroke is set at step 710.